

SEQUENCE LISTING

<110> GIMENO, Ruth

<120> METHODS FOR THE TREATMENT OF METABOLIC
DISORDERS, INCLUDING OBESITY AND DIABETES

<130> MNI-220

<150> 60/271,655

<151> 2001-02-26

<160> 16

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 1743

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (44) ... (1129)

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Cys Ala Arg Ala Ala Gly Asp Ala Pro Leu Arg Ser Leu Glu Gln Ala
5 10 15 20aac cgc acc cgc ttt ccc ttc ttc tcc gac gtc aag ggc gac cac cgg 151
Asn Arg Thr Arg Phe Pro Phe Ser Asp Val Lys Gly Asp His Arg
25 30 35ctg gtg ctg gcc gcg gtg gag aca acc gtg ctg gtg ctc atc ttt gca 199
Leu Val Leu Ala Ala Val Glu Thr Thr Val Leu Val Leu Ile Phe Ala
40 45 50gtg tcg ctg ctg ggc aac gtg tgc gcc ctg gtg ctg gtg gcg cgc cga 247
Val Ser Leu Leu Gly Asn Val Cys Ala Leu Val Leu Val Ala Arg Arg
55 60 65cga cgc cgc ggc act gcc tgc ctg gta ctc aac ctc ttc tgc gcg 295
Arg Arg Arg Gly Ala Thr Ala Cys Leu Val Leu Asn Leu Phe Cys Ala
70 75 80gac ctg ctc ttc atc agc gct atc cct ctg gtg ctg gcc gtg cgc tgg 343
Asp Leu Leu Phe Ile Ser Ala Ile Pro Leu Val Leu Ala Val Arg Trp
85 90 95 100act gag gcc tgg ctg ctg ggc ccc gtt gcc tgc cac ctg ctc ttc tac 391
Thr Glu Ala Trp Leu Leu Gly Pro Val Ala Cys His Leu Leu Phe Tyr
105 110 115gtg atg acc ctg agc ggc agc gtc acc atc ctc acg ctg gcc gcg gtc 439
Val Met Thr Leu Ser Gly Ser Val Thr Ile Leu Thr Leu Ala Ala Val

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agc ctg gag cgc atg gtg tgc atc gtg cac ctg cag cgc ggc gtg cg			487
Ser Leu Glu Arg Met Val Cys Ile Val His Leu Gln Arg Gly Val Arg			
135	140	145	
ggt cct ggg cg cg gcg gca gtg ctg ctg gcg ctc atc tgg ggc			535
Gly Pro Gly Arg Arg Ala Arg Ala Val Leu Leu Ala Leu Ile Trp Gly			
150	155	160	
tat tcg gcg gtc gcc gct ctg cct ctc tgc gtc ttc ttt cga gtc gtc			583
Tyr Ser Ala Val Ala Ala Leu Pro Leu Cys Val Phe Phe Arg Val Val			
165	170	175	180
ccg caa cg ctc ccc ggc gcc gac cag gaa att tcg att tgc aca ctg			631
Pro Gln Arg Leu Pro Gly Ala Asp Gln Glu Ile Ser Ile Cys Thr Leu			
185	190	195	
att tgg ccc acc att cct gga gag atc tcg tgg gat gtc tct ttt gtt			679
Ile Trp Pro Thr Ile Pro Gly Glu Ile Ser Trp Asp Val Ser Phe Val			
200	205	210	
act ttg aac ttc ttg gtg cca gga ctg gtc att gtg atc agt tac tcc			727
Thr Leu Asn Phe Leu Val Pro Gly Leu Val Ile Val Ile Ser Tyr Ser			
215	220	225	
aaa att tta cag atc aca aag gca tca agg aag agg ctc acg gta agc			775
Lys Ile Leu Gln Ile Thr Lys Ala Ser Arg Lys Arg Leu Thr Val Ser			
230	235	240	
ctg gcc tac tcg gag agc cac cag atc cgc gtg tcc cag cag gac ttc			823
Leu Ala Tyr Ser Glu Ser His Gln Ile Arg Val Ser Gln Gln Asp Phe			
245	250	255	260
cg cg ctc ttc cgc acc ctc ttc ctc atg gtc tcc ttc ttc atc atg			871
Arg Leu Phe Arg Thr Leu Phe Leu Leu Met Val Ser Phe Phe Ile Met			
265	270	275	
tgg agc ccc atc atc acc atc ctc ctc atc ctg atc cag aac ttc			919
Trp Ser Pro Ile Ile Ile Thr Ile Leu Leu Ile Leu Ile Gln Asn Phe			
280	285	290	
aag caa gac ctg atc tgg ccg tcc ctc ttc ttc tgg gtg gtg gcc			967
Lys Gln Asp Leu Val Ile Trp Pro Ser Leu Phe Phe Trp Val Val Ala			
295	300	305	
ttc aca ttt gct aat tca gcc cta aac ccc atc ctc tac aac atg aca			1015
Phe Thr Phe Ala Asn Ser Ala Leu Asn Pro Ile Leu Tyr Asn Met Thr			
310	315	320	
ctg tgc agg aat gag tgg aag aaa att ttt tgc tgc ttc tgg ttc cca			1063
Leu Cys Arg Asn Glu Trp Lys Lys Ile Phe Cys Cys Phe Trp Phe Pro			
325	330	335	340
gaa aag gga gcc att tta aca gac aca tct gtc aaa aga aat gac ttg			1111
Glu Lys Gly Ala Ile Leu Thr Asp Thr Ser Val Lys Arg Asn Asp Leu			
345	350	355	
tcg att att tct ggc taa tttttttta tagccgagtt tctcacac			1159
Ser Ile Ile Ser Gly *			
360			

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 caaccaggc aacaagagtg aaactccatc taaaaaaaaa aaaaaaaaaaag atttgttatg 1639
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<211> 361

<212> PRT

<213> Homo sapiens

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Gly	Asp	His	Arg	Leu	Val	Leu	Ala	Ala	Val	Glu	Thr	Thr	Val	Leu	Val
	35					40						45			
Leu	Ile	Phe	Ala	Val	Ser	Leu	Leu	Gly	Asn	Val	Cys	Ala	Leu	Val	Leu
	50					55						60			
Val	Ala	Arg	Arg	Arg	Arg	Gly	Ala	Thr	Ala	Cys	Leu	Val	Leu	Asn	
	65					70			75			80			
Leu	Phe	Cys	Ala	Asp	Leu	Leu	Phe	Ile	Ser	Ala	Ile	Pro	Leu	Val	Leu
								85			90			95	
Ala	Val	Arg	Trp	Thr	Glu	Ala	Trp	Leu	Leu	Gly	Pro	Val	Ala	Cys	His
								100			105			110	
Leu	Leu	Phe	Tyr	Val	Met	Thr	Leu	Ser	Gly	Ser	Val	Thr	Ile	Leu	Thr
							115			120			125		
Leu	Ala	Ala	Val	Ser	Leu	Glu	Arg	Met	Val	Cys	Ile	Val	His	Leu	Gln
							130			135			140		
Arg	Gly	Val	Arg	Gly	Pro	Gly	Arg	Arg	Ala	Arg	Ala	Val	Leu	Leu	Ala
	145					150						155			160
Leu	Ile	Trp	Gly	Tyr	Ser	Ala	Val	Ala	Ala	Leu	Pro	Leu	Cys	Val	Phe
							165			170			175		
Phe	Arg	Val	Val	Pro	Gln	Arg	Leu	Pro	Gly	Ala	Asp	Gln	Glu	Ile	Ser
							180			185			190		
Ile	Cys	Thr	Leu	Ile	Trp	Pro	Thr	Ile	Pro	Gly	Glu	Ile	Ser	Trp	Asp
							195			200			205		
Val	Ser	Phe	Val	Thr	Leu	Asn	Phe	Leu	Val	Pro	Gly	Leu	Val	Ile	Val
							210			215			220		
Ile	Ser	Tyr	Ser	Lys	Ile	Leu	Gln	Ile	Thr	Lys	Ala	Ser	Arg	Lys	Arg
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Leu	Thr	Val	Ser	Leu	Ala	Tyr	Ser	Glu	Ser	His	Gln	Ile	Arg	Val	Ser
							245			250			255		
Gln	Gln	Asp	Phe	Arg	Leu	Phe	Arg	Thr	Leu	Phe	Leu	Leu	Met	Val	Ser
							260			265			270		
Phe	Phe	Ile	Met	Trp	Ser	Pro	Ile	Ile	Thr	Ile	Leu	Leu	Ile	Leu	
							275			280			285		
Ile	Gln	Asn	Phe	Lys	Gln	Asp	Leu	Val	Ile	Trp	Pro	Ser	Leu	Phe	Phe
							290			295			300		
Trp	Val	Val	Ala	Phe	Thr	Phe	Ala	Asn	Ser	Ala	Leu	Asn	Pro	Ile	Leu
	305						310					315			320
Tyr	Asn	Met	Thr	Leu	Cys	Arg	Asn	Glu	Trp	Lys	Lys	Ile	Phe	Cys	Cys
							325			330			335		
Phe	Trp	Phe	Pro	Glu	Lys	Gly	Ala	Ile	Leu	Thr	Asp	Thr	Ser	Val	Lys

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Arg Asn Asp Leu Ser Ile Ile Ser Gly		
355	360	

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<211> 1086
<212> DNA
<213> Homo sapiens

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gcgggtggaga caaccgtgct ggtgctcatc tttgcagtgt cgctgctggg caacgtgtgc 180
gccctgggtgc tgggtggcgc cgcacgacgc cgccggcgcga ctgcctgcct ggtactcaac 240
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gtgcacactgc agcgcggcgt gcggggctt gggcggcggc cgcggggcagt gctgctggcg 480
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attcctggag agatctcgat gatgtctt tttgttactt tgaacttctt ggtgccagga 660
ctggtcattt tggatcgtta ctccaaaatt ttacagatca caaaggcatc aaggaagagg 720
ctcacggtaa gcctggcta ctcggagagc caccagatcc gcgtgtccca gcaggacttc 780
cggtcttcc gcaccctt ctcctcatg gtctccttct tcattatgtg gagccccatc 840
atcatcacca tcctcctcat cctgatccag aacttcaagc aagacctggg catctggccg 900
tccctttct tctgggtggt ggccttcaca tttgctaatt cagccctaaa ccccatcctc 960
tacaacatga cactgtgcag gaatgagtgg aagaaaattt tttgctgctt ctggttccca 1020
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<213> Murine ortholog

<220>
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<222> (195) ... (1280)

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tcgatgaccc tcttgacagc cacgagcgcg cgcaagctccg ccatcttccc ggacgcgtgg 180
gccggggcgc cggc atg tcc cct gag tgt gca cag acg acg ggc cct ggt 230
Met Ser Pro Glu Cys Ala Gln Thr Thr Gly Pro Gly
1 5 10

ccc tcg cac acc ctg gac caa gtc aat cgc acc cac ttc cct ttc	278	
Pro Ser His Thr Leu Asp Gln Val Asn Arg Thr His Phe Pro Phe Phe		
15	20	25

tcg gat gtc aag ggc gac cac cgg ttg gtg ttg agc gtc gtg gag acc	326	
Ser Asp Val Lys Gly Asp His Arg Leu Val Leu Ser Val Val Glu Thr		
30	35	40

acc gtt ctg gga ctc atc ttt gtc gtc tca ctg ctg ggc aac gtg tgt	374		
Thr Val Leu Gly Leu Ile Phe Val Val Ser Leu Leu Gly Asn Val Cys			
45	50	55	60

gct cta gtg ctg gtg gcg cgc cgt cgg cgc cgt ggg gcg tca gcc agc	422
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Ala	Leu	Val	Leu	Val	Ala	Arg	Arg	Arg	Arg	Gly	Ala	Ser	Ala	Ser			
					65		70		75								
ctg	gtg	ctc	aac	ctc	ttc	tgc	gcg	gat	ttg	ctc	ttc	acc	agc	gcc	atc	470	
Leu	Val	Leu	Asn	Leu	Phe	Cys	Ala	Asp	Leu	Leu	Phe	Thr	Ser	Ala	Ile		
					80		85		90								
cct	cta	gtg	ctc	gtc	gtg	cgc	tgg	act	gag	gcc	tgg	ctg	ttg	ggg	ccc	518	
Pro	Leu	Val	Leu	Val	Val	Arg	Trp	Thr	Glu	Ala	Trp	Leu	Leu	Gly	Pro		
					95		100		105								
gtc	gtc	tgc	cac	ctg	ctc	ttc	tac	gtg	atg	aca	atg	agc	ggc	agc	gtc	566	
Val	Val	Cys	His	Leu	Leu	Phe	Tyr	Val	Met	Thr	Met	Ser	Gly	Ser	Val		
					110		115		120								
acg	atc	ctc	aca	ctg	gcc	gcg	gtc	agc	ctg	gag	cgc	atg	gtg	tgc	atc	614	
Thr	Ile	Leu	Thr	Leu	Ala	Ala	Val	Ser	Leu	Glu	Arg	Met	Val	Cys	Ile		
					125		130		135		140						
gtg	cgc	ctc	cg	cg	ggc	ttg	agc	ggc	ccg	ggg	cg	gg	act	cag	g	662	
Val	Arg	Leu	Arg	Arg	Gly	Leu	Ser	Gly	Pro	Gly	Arg	Arg	Thr	Gln	Ala		
					145		150		155								
gca	ctg	ctg	gct	ttc	ata	tgg	ggt	ta	tcg	g	ctc	gcc	g	ctg	ccc	710	
Ala	Leu	Leu	Ala	Phe	Ile	Trp	Gly	Tyr	Ser	Ala	Leu	Ala	Leu	Pro			
					160		165		170								
ctc	tac	atc	ttg	ttc	cg	gt	gt	cc	cg	c	ctt	ccc	gg	gg	gac	758	
Leu	Tyr	Ile	Leu	Phe	Arg	Val	Val	Pro	Gln	Arg	Leu	Pro	Gly	Gly	Asp		
					175		180		185								
cag	gaa	att	ccg	att	tgc	aca	ttg	gat	tgg	ccc	aa	cgc	at	gaa	gaa	806	
Gln	Glu	Ile	Pro	Ile	Cys	Thr	Leu	Asp	Trp	Pro	Asn	Arg	Ile	Gly	Glu		
					190		195		200								
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Ile	Ser	Trp	Asp	Val	Phe	Phe	Glu	Thr	Leu	Asn	Phe	Leu	Val	Pro	Gly		
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ctg	gtc	att	gt	atc	ag	ta	tcc	aaa	att	tta	cag	atc	ac	aaa	gca	902	
Leu	Val	Ile	Val	Ile	Ser	Tyr	Ser	Lys	Ile	Leu	Gln	Ile	Thr	Lys	Ala		
					225		230		235								
tcg	cgg	aag	agg	ctt	acg	ctg	agc	ttg	gca	ta	c	tct	gag	agc	cac	950	
Ser	Arg	Lys	Arg	Leu	Thr	Leu	Ser	Leu	Ala	Tyr	Ser	Glu	Ser	His	Gln		
					240		245		250								
atc	cga	gt	tcc	caa	caa	gac	ta	cga	ctc	ttc	cg	ac	ctc	ttc	ctg	998	
Ile	Arg	Val	Ser	Gln	Gln	Asp	Tyr	Arg	Leu	Phe	Arg	Thr	Leu	Phe	Leu		
					255		260		265								
ctc	atg	gtt	tcc	ttc	atc	atg	tgg	agt	ccc	atc	atc	atc	acc	atc		1046	
Leu	Met	Val	Ser	Phe	Phe	Ile	Met	Trp	Ser	Pro	Ile	Ile	Ile	Thr	Ile		
					270		275		280								
ctc	ctc	atc	ttg	atc	caa	aa	t	tc	cg	ca	g	tc	atc	tgg	cca	1094	
Leu	Leu	Ile	Leu	Ile	Gln	Asn	Phe	Arg	Gln	Asp	Leu	Val	Ile	Trp	Pro		
					285		290		295		300						
tcc	ctt	ttc	ttc	tgg	gt	gt	gg	ttc	ac	ttt	gg	aa	c	tct	gg	ct	1142
Ser	Leu	Phe	Phe	Trp	Val	Val	Ala	Phe	Thr	Phe	Ala	Asn	Ser	Ala	Leu		

305	310	315	
aac ccc ata ctg tac aac atg tcg ctg ttc agg aac gaa tgg agg aag Asn Pro Ile Leu Tyr Asn Met Ser Leu Phe Arg Asn Glu Trp Arg Lys 320	325	330	1190
att ttt tgc tgc ttc ttt ttt cca gag aag gga gcc att ttt aca gat Ile Phe Cys Cys Phe Phe Pro Glu Lys Gly Ala Ile Phe Thr Asp 335	340	345	1238
acg tct gtc agg cga aat gac ttg tct gtt att tcc agc taa Thr Ser Val Arg Arg Asn Asp Leu Ser Val Ile Ser Ser *	355	360	1280
ctagcctctg gtgccagggtg aaccacggtg tgcatgtaaa gggagttaac ttcaaggaaa 1340 gccccaccagt gcgccctgct ttaaaaatac ccgacttcca acagcaggca tctacggagc 1400 cagcaaatta aggaatgatc gctcagtata aaaatatttt tccttaaaag aactttctat 1460 gggttccttt tgtgaacttt tttaagtgtg tttgtaatat gatctagitta ataaattttt 1520 atttataacg tgttcctaca aaaaaaaaaa aaaaaaaaaa 1560			
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Leu Ile Phe Val Val Ser Leu Leu Gly Asn Val Cys Ala Leu Val Leu 50 55 60			
Val Ala Arg Arg Arg Gly Ala Ser Ala Ser Leu Val Leu Asn 65 70 75 80			
Leu Phe Cys Ala Asp Leu Leu Phe Thr Ser Ala Ile Pro Leu Val Leu 85 90 95			
Val Val Arg Trp Thr Glu Ala Trp Leu Leu Gly Pro Val Val Cys His 100 105 110			
Leu Leu Phe Tyr Val Met Thr Met Ser Gly Ser Val Thr Ile Leu Thr 115 120 125			
Leu Ala Ala Val Ser Leu Glu Arg Met Val Cys Ile Val Arg Leu Arg 130 135 140			
Arg Gly Leu Ser Gly Pro Gly Arg Arg Thr Gln Ala Ala Leu Leu Ala 145 150 155 160			
Phe Ile Trp Gly Tyr Ser Ala Leu Ala Leu Pro Leu Tyr Ile Leu 165 170 175			
Phe Arg Val Val Pro Gln Arg Leu Pro Gly Gly Asp Gln Glu Ile Pro 180 185 190			
Ile Cys Thr Leu Asp Trp Pro Asn Arg Ile Gly Glu Ile Ser Trp Asp 195 200 205			
Val Phe Phe Glu Thr Leu Asn Phe Leu Val Pro Gly Leu Val Ile Val 210 215 220			
Ile Ser Tyr Ser Lys Ile Leu Gln Ile Thr Lys Ala Ser Arg Lys Arg 225 230 235 240			
Leu Thr Leu Ser Leu Ala Tyr Ser Glu Ser His Gln Ile Arg Val Ser 245 250 255			
Gln Gln Asp Tyr Arg Leu Phe Arg Thr Leu Phe Leu Leu Met Val Ser 260 265 270			
Phe Phe Ile Met Trp Ser Pro Ile Ile Thr Ile Leu Leu Ile Leu			

275	280	285
Ile Gln Asn Phe Arg Gln Asp Leu Val Ile Trp Pro Ser Leu Phe Phe		
290	295	300
Trp Val Val Ala Phe Thr Phe Ala Asn Ser Ala Leu Asn Pro Ile Leu		
305	310	315
Tyr Asn Met Ser Leu Phe Arg Asn Glu Trp Arg Lys Ile Phe Cys Cys		
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Phe Phe Phe Pro Glu Lys Gly Ala Ile Phe Thr Asp Thr Ser Val Arg		
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Arg Asn Asp Leu Ser Val Ile Ser Ser		
355	360	

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gtcgtggaga ccaccgttct gggactcatc tttgtcgct cactgctggg caacgtgtgt 180
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tccctttct tctgggttgtt ggccttcacg tttgccaact ctgcccctaaa ccccatactg 960
tacaacatgt cgctgttcag gaacgaatgg aggaagattt tttgctgtt ctttttcca 1020
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